Section 1. Registration Information

Source Identification

Facility Name:	Big West of California, LLC A1&2
Parent Company #1 Name:	Flying J
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Correction or administrative change
Subsequent RMP Submission Reason:	Notification of facility ownership change
Description:	Working Copy
Receipt Date:	20-Apr-2005
Postmark Date:	19-Apr-2005
Next Due Date:	01-Jul-2007
Completeness Check Date:	21-Apr-2005
Complete RMP:	
De-Registration / Closed Reason:	03
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	19-May-2005
De-Registered / Closed Effective Date:	24-May-2005
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0014 7815
Other EPA Systems Facility ID:	93308TXCRF6451
Facility Registry System ID:	1100 1788 7330

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	45267002
Parent Company #1 DUNS:	
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	6451 Rosedale Highway
Street 2:	
City:	Bakersfield
State:	CALIFORNIA
ZIP:	93308
ZIP4:	
County:	KERN

Facility Latitude and Longitude

Latitude (decimal):	35.382500
Longitude (decimal):	-119.070556
Lat/Long Method:	Interpolation - Photo
Lat/Long Description:	Administrative Building
Horizontal Accuracy Measure:	25
Horizontal Reference Datum Name:	North American Datum of 1983
Source Map Scale Number:	24000

Owner or Operator

Operator Name:	BIG WEST OF CALIFORNIA, LLC
Operator Phone:	(661) 326-4200

Mailing Address

Operator Street 1:	P.O. Box 1132
Operator Street 2:	
Operator City:	Bakersfield
Operator State:	CALIFORNIA
Operator ZIP:	93302
Operator ZIP4:	1132
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Eugene Cotton
RMP Title of Person or Position:	Vice President
RMP E-mail Address:	eugene.cotten@flyingj.com

Emergency Contact

Emergency Contact Name:	Fred Hrenchir
Emergency Contact Title:	Supervisor, Health & Safety
Emergency Contact Phone:	(661) 326-4388
Emergency Contact 24-Hour Phone:	(661) 326-4200
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	fred.hrenchir@flyingj.com

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	
Facility or Parent Company WWW Homepage Address:	

Local Emergency Planning Committee

LEPC:	Region 5 LEPC Inland South

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	227
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes
CAA Title V:	

Air Operating Permit ID:

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	07-Dec-2004
Last Safety Inspection Performed By an External Agency:	State occupational safety agency

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:
Preparer Phone:
Preparer Street 1:
Preparer Street 2:
Preparer City:
Preparer State:
Preparer ZIP:
Preparer ZIP4:
Preparer Foreign State:
Preparer Foreign Country:
Preparer Foreign ZIP:

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents:	See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	61377
Description:	Unit 71 -Area 2 Tank Farm
Process Chemical ID:	81033
Program Level:	Program Level 3 process
Chemical Name:	Ammonia (anhydrous)
CAS Number:	7664-41-7
Quantity (lbs):	290000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61382
Description:	Unit 71 - A2 TF (CalARP)
Process Chemical ID:	81039
Program Level:	Program Level 3 process
Chemical Name:	Hydrogen sulfide
CAS Number:	7783-06-4
Quantity (lbs):	1200
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61370
Description:	Unit 21 - HCU
Process Chemical ID:	81025
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	73000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60457
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60455
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60456
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60453
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60458
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60454
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Process ID:	61375
Description:	Unit 27 - CD Hydro
Process Chemical ID:	81030
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	44000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60484
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60485
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60486
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60488
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60487
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Process ID:	61377
Description:	Unit 71 -Area 2 Tank Farm
Process Chemical ID:	81032
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	44000000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60501
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60499
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60498
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60494
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60500
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60497
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60496
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60495
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Process ID:	61380
Description:	Unit 23 - PhosAm (CalARP)
Process Chemical ID:	81037
Program Level:	Program Level 3 process
Chemical Name:	Ammonia (conc 20% or greater)
CAS Number:	7664-41-7
Quantity (lbs):	1200
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61372
Description:	Unit 24 - SGP
Process Chemical ID:	81027
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11

Quantity (lbs):	56000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60465
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60463
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60468
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60466
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60467
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60464
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Process ID:	61379
Description:	Unit 21 - HCU (CalARP)
Process Chemical ID:	81036
Program Level:	Program Level 3 process
Chemical Name:	Hydrogen sulfide
CAS Number:	7783-06-4
Quantity (lbs):	1300
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61373
Description:	Unit 25 - MEA
Process Chemical ID:	81028
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11

Quantity (lbs):	48000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60473
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60469
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60470
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60472
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60471
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60474
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60475
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Process ID:	61378
Description:	Unit 15 - SWS (CalARP)
Process Chemical ID:	81034
Program Level:	Program Level 3 process
Chemical Name:	Ammonia (conc 20% or greater)
CAS Number:	7664-41-7
Quantity (lbs):	3000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61378

Description:	Unit 15 - SWS (CalARP)
Process Chemical ID:	81035
Program Level:	Program Level 3 process
Chemical Name:	Hydrogen sulfide
CAS Number:	7783-06-4
Quantity (lbs):	620
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61374
Description:	Unit 26 - HTU #3
Process Chemical ID:	81029
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	52000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60476
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60477
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60480
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60481
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60482
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60479
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60483
Chemical Name:	Hydrogen
CAS Number:	1333-74-0

Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60478
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Process ID:	61369
Description:	Unit 20 - HGU
Process Chemical ID:	81024
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	19000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60452
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Process ID:	61381
Description:	Unit 26 - HTU (CalARP)
Process Chemical ID:	81038
Program Level:	Program Level 3 process
Chemical Name:	Hydrogen sulfide
CAS Number:	7783-06-4
Quantity (lbs):	620
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	61368
Description:	Units 10/11/12 - CVU
Process Chemical ID:	81023
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	88000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60450
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4

Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60446
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60448
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60447
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60449
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60451
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Process ID:	61371
Description:	Unit 22 - CRU #4
Process Chemical ID:	81026
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	20000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60462
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60461
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	60460
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60459
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Process ID:	61376
Description:	Unit 70 -Area 1 Tank Farm
Process Chemical ID:	81031
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	5700000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	60493
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60490
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60489
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60492
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	60491
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Process NAICS

Process ID:	61368
Process NAICS ID:	62800
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61369
Process NAICS ID:	62801

Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61370
Process NAICS ID:	62802
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61371
Process NAICS ID:	62803
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61372
Process NAICS ID:	62804
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61373
Process NAICS ID:	62805
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61374
Process NAICS ID:	62806
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61375
Process NAICS ID:	62807
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61376
Process NAICS ID:	62808
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61377
Process NAICS ID:	62809
Program Level:	Program Level 3 process

NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61378
Process NAICS ID:	62810
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61379
Process NAICS ID:	62811
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61380
Process NAICS ID:	62812
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61381
Process NAICS ID:	62813
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	61382
Process NAICS ID:	62814
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Section 2. Toxics: Worst Case

Toxic Worst ID: 40572

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	EPA's OCA Guidance Reference Tables or Equations
Release Duration (mins):	10
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 47830

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	PHASTProfessional by DNV Technica
Wind Speed (m/sec):	2.7
Atmospheric Stability Class:	D
Topography:	Rural

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	
Emergency Shutdown:	
Other Type:	

Toxic Alter ID: 47831

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	PHASTProfessional by DNV Technica
Wind Speed (m/sec):	2.7
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	

Emergency Shutdown:
Other Type:

Section 4. Flammables: Worst Case

Flammable Worst ID: 10383

Model Used:	EPA's OCA Guidance Reference Tables or Equations
Endpoint used:	1 PSI

Passive Mitigation Considered

Blast Walls:

Other Type:

Section 5. Flammables: Alternative Release

Flammable Alter ID: 8062

Model Used: PHASTProfessional by DNV Technica

Passive Mitigation Considered

Dikes:
Fire Walls:
Blast Walls:
Enclosures:
Other Type:

Active Mitigation Considered

Sprinkler System:
Deluge System:
Water Curtain:
Excess Flow Valve:
Other Type:

Section 6. Accident History

Accident History ID: 6620

Date of Accident:	02-Apr-1998
Time Accident Began (HHMM):	0116
NAICS Code of Process Involved:	32411
NAICS Description:	Petroleum Refineries
Release Duration:	000 Hours 30 Minutes

Release Event

Gas Release:	Yes
Liquid Spill/Evaporation:	
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	
Piping:	
Process Vessel:	
Transfer Hose:	
Valve:	
Pump:	
Joint:	
Other Release Source:	Unit 15 vented to flare

Weather Conditions at the Time of Event

Wind Speed:	6.0
Units:	miles/h
Direction:	E
Temperature:	49
Atmospheric Stability Class:	D
Precipitation Present:	
Unknown Weather Conditions:	

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	0
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	1
Evacuated:	0

Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Human Error

Contributing Factors

Equipment Failure:	
Human Error:	Yes
Improper Procedures:	
Overpressurization:	
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	

Off-Site Responders Notified

Off-Site Responders Notified:	Unknown

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	
Revised Maintenance:	
Revised Training:	
Revised Operating Procedures:	
New Process Controls:	
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	
Reduced Inventory:	
None:	Yes
Other Changes Introduced:	

Confidential Business Information

CBI Claimed:	

Chemicals in Accident History

Accident Chemical ID:	7191
Quantity Released (lbs):	73
Percent Weight:	70.0
Chemical Name:	Hydrogen sulfide
CAS Number:	7783-06-4
Flammable/Toxic:	Toxic

Accident History ID: 6619

Date of Accident:	22-Aug-2001
Time Accident Began (HHMM):	0415
NAICS Code of Process Involved:	32411
NAICS Description:	Petroleum Refineries
Release Duration:	000 Hours 10 Minutes

Release Event

Gas Release:	Yes
Liquid Spill/Evaporation:	
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	
Piping:	Yes
Process Vessel:	
Transfer Hose:	
Valve:	
Pump:	
Joint:	
Other Release Source:	

Weather Conditions at the Time of Event

Wind Speed:	
Units:	meters/second
Direction:	
Temperature:	
Atmospheric Stability Class:	
Precipitation Present:	
Unknown Weather Conditions:	

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	1
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	0
Evacuated:	0
Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Equipment Failure

Contributing Factors

Equipment Failure:	Yes
Human Error:	
Improper Procedures:	
Overpressurization:	Yes
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	Yes
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	

Off-Site Responders Notified

Off-Site Responders Notified:	Notified and Responded

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	
Revised Maintenance:	
Revised Training:	
Revised Operating Procedures:	
New Process Controls:	
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	Yes
Reduced Inventory:	Yes
None:	
Other Changes Introduced:	Substituted more inherently safe process

Confidential Business Information

CBI Claimed:

Chemicals in Accident History

Accident Chemical ID:	7190
Quantity Released (lbs):	10
Percent Weight:	100.0
Chemical Name:	Chlorine
CAS Number:	7782-50-5
Flammable/Toxic:	Toxic

Section 7. Program Level 3

Description

Physically separates crude oil into intermediate and final products by boiling the crude oil and condensing the vapors (i.e., distillation).

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51808
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	61368
Description:	Units 10/11/12 - CVU
Prevention Program Level 3 ID:	35661
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	15-Apr-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	29-Nov-2001

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	29-May-2003

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes

Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitor; paved and sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	

Change Process Parameters:	
Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	25-Jun-2003

Training

Training Revision Date (The date of the most recent review or revision of training programs):	15-Jul-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	13-Apr-2005
Equipment Tested (Equipment most recently inspected or tested):	10-P1A, Crude Charge Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	16-Mar-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	10-Apr-2003

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	18-Feb-2004
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	30-Apr-2004

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

Manufactures high purity hydrogen for consumption in the hydrotreaters, the hydrocracker, and the mild hydrocracker.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51809
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61369
Description:	Unit 20 - HGU
Prevention Program Level 3 ID:	35662
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	28-May-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	12-Nov-2001

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	12-May-2003

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	Yes

Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved and sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	Yes

Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	21-Mar-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	01-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	20-P18, Boiler Feedwater Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	17-Mar-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	05-Mar-2004

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	08-Jan-2004
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	31-Jan-2001

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

High temperature and catalyst are used to break or crack large hydrocarbon molecules such as diesel from the Crude Vacuum Unit, and gas oil and naphtha from the Delayed Coking Unit in Area 3.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51810
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61370
Description:	Unit 21 - HCU
Prevention Program Level 3 ID:	35663
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	13-Mar-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	06-Mar-2003

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	06-Mar-2004

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitor; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	change operational procedures; change in unit throughput

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	28-May-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	01-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	04-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	21-P12, DC Charge Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	04-Apr-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	01-Nov-2004

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	16-Sep-2000
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	15-Apr-2001

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Provides a high octane blending component necessary to produce gasoline.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51811
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61371
Description:	Unit 22 - CRU #4
Prevention Program Level 3 ID:	35664
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	23-Apr-2001

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Mar-2004

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	31-Dec-2002

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	Yes

Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitor; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes
Installation of Process Controls:	Yes

Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	10-Jun-2003

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	22-P11, Charge Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	20-Sep-2004
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	25-Mar-2005

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	21-Jan-1999
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	26-Jan-2000

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

Separates and purifies liquified petroleum gas (LPG) streams from the CVU, the reformers, and the hydrocracker. (Also known as Saturated Gas Plant.)

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51812
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61372
Description:	Unit 24 - SGP
Prevention Program Level 3 ID:	35665
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	04-Apr-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	12-Apr-2004

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	11-Aug-2003

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	24-P15, Deethanizer Reflux Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	10-Mar-2004
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	04-Jun-2003

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Consists of a closed circulation system in which an amine solution removes hydrogen sulfide (H2S) from sour liquid and gas streams.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51813
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61373
Description:	Unit 25 - MEA
Prevention Program Level 3 ID:	35666
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	29-Apr-2001

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Jun-1997

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	31-Dec-2002

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	change in operational procedures

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	25-Jun-2003

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	25-P15, Lean Amine Circulation Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	29-Apr-2001
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	30-Jul-2003

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	20-Sep-2001

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	01-Jun-1999
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	13-Jul-2000

Confidential Business Information

CBI Claimed:

Description

Removes nitrogen and sulfur contaminants from feed naphtha.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51814
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	61374
Description:	Unit 26 - HTU #3
Prevention Program Level 3 ID:	35667
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	23-Jan-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	10-Sep-2003

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	10-Sep-2004

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	Yes

Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes
Installation of Process Controls:	Yes

Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	change in operational procedures

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	01-Nov-2004

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	26-P15, Stripper Reflux Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	23-Jan-2002
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	27-Mar-2005

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Converts a portion of benzene in gasoline to cyclohexane to achieve maximum benzene concentration specifications.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51815
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61375
Description:	Unit 27 - CD Hydro
Prevention Program Level 3 ID:	35668
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	23-Apr-2001

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	23-Aug-2004

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	Yes

Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	Yes

Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	13-Nov-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	01-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	27-P1A, CD Hydro Bottoms Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	07-Jan-2003
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	07-Jan-2003

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Storage, interplant transfer, blending, dewatering, chemical treatment, pipeline receiving and shipping, rail receiving and shipping, and truck loading/unloading of crude oils, intermediate products, additives, chemicals, and finished products.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51816
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61376
Description:	Unit 70 -Area 1 Tank Farm
Prevention Program Level 3 ID:	35669
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	29-May-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	04-Mar-2002

The Technique Used

What If:	Yes
Checklist:	
What If/Checklist:	
HAZOP:	
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	04-Sep-2003

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	29-Jul-2004

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2005
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	70-P110A, Crude Transfer Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	29-Mar-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	02-Jul-2002

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Storage, interplant transfer, blending, dewatering, chemical treatment, pipeline receiving and shipping, rail receiving and shipping, and truck loading/unloading of crude oils, intermediate products, additives, chemicals, and finished products.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51817
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	61377
Description:	Unit 71 -Area 2 Tank Farm
Prevention Program Level 3 ID:	35670
NAICS Code:	32411
Prevention Program Chemical ID:	51818
Chemical Name:	Ammonia (anhydrous)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7
Process ID:	61377
Description:	Unit 71 -Area 2 Tank Farm
Prevention Program Level 3 ID:	35670
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	30-Apr-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	22-Jan-2002

The Technique Used

What If:	Yes
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	22-Jul-2003

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	20-Jun-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	17-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005

Equipment Tested (Equipment most recently inspected or tested):	71-P85, Natural Gasoline Transfer Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	30-Dec-2004
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	30-Apr-2002

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

The amine unit consists of a closed circulation system in which an amine solution removes hydrogen sulfide (H2S) from sour liquid and gas streams. The sour water stripper removes H2S from sour water.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51819
Chemical Name:	Ammonia (conc 20% or greater)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7
Process ID:	61378
Description:	Unit 15 - SWS (CalARP)
Prevention Program Level 3 ID:	35671
NAICS Code:	32411
Prevention Program Chemical ID:	51820
Chemical Name:	Hydrogen sulfide
Flammable/Toxic:	Toxic
CAS Number:	7783-06-4
Process ID:	61378
Description:	Unit 15 - SWS (CalARP)
Prevention Program Level 3 ID:	35671
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	05-Apr-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Jan-1998

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	31-Dec-2003

Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	
Corrosion:	
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	
Interlocks:	
Alarms and Procedures:	
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	paved and sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes
Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	07-Nov-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	11-Nov-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-Jun-2001
Equipment Inspection Date (The date of the most recent equipment inspection or test):	10-Jun-2002

Equipment Tested (Equipment most recently inspected or tested):	15-P18B, Sour Water Transfer Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	10-Mar-2004
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	07-Oct-2004

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	17-Feb-1998
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	09-Aug-1998

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

High temperature and catalyst are used to break or crack large hydrocarbon molecules such as diesel from the Crude Vacuum Unit, and gas oil and naphtha from the Delayed Coking Unit in Area 3.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51821
Chemical Name:	Hydrogen sulfide
Flammable/Toxic:	Toxic
CAS Number:	7783-06-4
Process ID:	61379
Description:	Unit 21 - HCU (CalARP)
Prevention Program Level 3 ID:	35672
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	13-Mar-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	06-Mar-2003

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	31-Dec-2002

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitor; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	change operational procedures; change in unit throughput

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	28-May-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	25-Aug-2003

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2005
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	21-P12, DC Charge Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	04-Apr-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	01-Sep-2004

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	16-Sep-2000
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	15-Apr-2001

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

Uses a phosphoric acid solution to absorb ammonia present in acid gas streams produced at the phenolic sour water stripper and the hydrocracker sour water stripper.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51822
Chemical Name:	Ammonia (conc 20% or greater)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7
Process ID:	61380
Description:	Unit 23 - PhosAm (CalARP)
Prevention Program Level 3 ID:	35673
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	03-Apr-2001

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Aug-1997

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	01-Dec-2002

Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	Yes
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	04-Mar-2002

Training

Training Revision Date (The date of the most recent review or revision of training programs):	09-Apr-2002

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2005
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	23-P2, Ammonia Stripper Feed Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	03-Apr-2001
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	07-Mar-2005

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	03-Apr-2001

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	09-May-2001
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	20-Aug-2001

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:

Description

Removes nitrogen and sulfur contaminants from feed naphtha.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51823
Chemical Name:	Hydrogen sulfide
Flammable/Toxic:	Toxic
CAS Number:	7783-06-4

Process ID:	61381
Description:	Unit 26 - HTU (CalARP)
Prevention Program Level 3 ID:	35674
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	23-Jan-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	10-Apr-2003

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	28-Mar-2002

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	Yes

Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	Yes
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors; paved & sloped with drains

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	Yes
Installation of Process Controls:	Yes

Installation of Process Detection Systems:	Yes
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	change in operational procedures

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	01-Nov-2004

Training

Training Revision Date (The date of the most recent review or revision of training programs):	09-Apr-2002

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	26-P15, Stripper Reflux Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	15-Mar-2005
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	16-Oct-2003

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Description

Storage, interplant transfer, blending, dewatering, chemical treatment, pipeline receiving and shipping, rail receiving and shipping, and truck loading/unloading of crude oils, intermediate products, additives, chemicals, and finished products.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	51824
Chemical Name:	Hydrogen sulfide
Flammable/Toxic:	Toxic
CAS Number:	7783-06-4
Process ID:	61382
Description:	Unit 71 - A2 TF (CalARP)
Prevention Program Level 3 ID:	35675
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	30-Apr-2002

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	22-Jan-2002

The Technique Used

What If:	Yes
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	22-Jul-2003

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes

Earthquake:	Yes
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	fire monitors

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	Yes
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	

Installation of Process Controls:	Yes
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	29-Jul-2004

Training

Training Revision Date (The date of the most recent review or revision of training programs):	09-Apr-2002

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	05-Jun-2004
Equipment Inspection Date (The date of the most recent equipment inspection or test):	15-Feb-2005
Equipment Tested (Equipment most recently inspected or tested):	71-P85, Natural Gasoline Transfer Pump

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	30-Dec-2004
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Jun-2001

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	30-Apr-2002

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	13-Jul-2001
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	13-Jul-2002

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	31-May-2001

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	18-Mar-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	22-Sep-2003
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	04-Oct-2004

Confidential Business Information

CBI Claimed:	

Section 8. Program Level 2

No records found.

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	Yes
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	Yes
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	Yes
Healthcare (Does facility's ER plan include information on emergency health care?):	Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	18-Sep-2001

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	17-May-2002

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	Kern County Fire Department
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(661) 391-7000

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	Yes
Clean Water Regulations at 40 CFR 112:	Yes
RCRA Regulations at CFR 264, 265, and 279.52:	Yes
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	Yes
State EPCRA Rules or Laws:	Yes
Other (Specify):	

Executive Summary

Risk Management Plan

Big West of California, LLC
Bakersfield Refinery - Areas 1 and 2

Executive Summary

This is the Risk Management Plan (RMP) for Areas 1 and 2 of the Big West of California, LLC Bakersfield Refinery (BWC). The RMP is required under the U.S. Environmental Protection Agency (EPA) Risk Management Program codified in 40 Code of Federal Regulations, Part 68 (40 CFR 68). Refining operations are primarily conducted in Areas 1 and 2, which are on contiguous properties. BWC also has delayed coking operations in Area 3, which is not adjacent to Areas 1 and 2. A separate RMP submittal has been prepared for Area 3.

The purpose of the Risk Management Program is to identify and prevent potential accidental releases of specific "regulated substances" that have the potential to cause harm to the public and the environment. "Regulated substances" are hazardous chemicals identified by EPA. BWC has quantities of various "regulated substances" above the threshold amounts.

The remainder of the Executive Summary is organized as follows:

Section 1: Accidental Release Prevention and Emergency Response Policies at BWC
Section 2: Overview of Regulated Substances at BWC
Section 3: Worst Case Release Scenarios and Alternative Release Scenarios
Section 4: BWC Accidental Release Prevention Program
Section 5: Five-Year Accidental Release Summary
Section 6: Emergency Response Program
Section 7: Planned Changes to Improve Safety

Section 1: Accidental Release Prevention and Emergency Response Policies at BWC

Equipment at the various units must be designed, operated, and maintained in full compliance with applicable internal engineering standards, accepted industry codes, or industry standards. Systems and procedures are in place to control changes in process technology, facilities, operating procedures, and maintenance procedures, in order to provide for continued safe and reliable operations.

All employees at BWC have the responsibility to protect the environment and to ensure the safety and security of his/her fellow workers. Written policies and standards are in place to ensure:

* The safety and health of employees and other workers at the site;
* Protection of the environment;
* Reliable and efficient operation of the facilities;
* Minimization of the risk of product or property losses; and
* Maintaining a positive relationship with the communities adjacent to our facility.

These written policies and standards are discussed further elsewhere in this submittal.

Section 2: Overview of Regulated Substances at BWC

BWC began operations as Getty Oil in 1932. In 1986. Under different owners, regular expansion and improvements of facilities have occurred over the years, including the integration of an adjacent refinery in 1986 that doubled gasoline production. In 1998, the refinery became a part of Equilon Enterprises, LLC, a joint venture of Shell Oil Company and Texaco Inc. Shell Oil Products US

acquired Texaco's interest in 2002. On March 16, 2005 Big West of California, LLC acquired interest in the refinery.

BWC refines crude oil into a number of consumer products, including gasoline, diesel, gasoils, liquified petroleum gases (LPG), ammonia (for local agricultural use), and coke.

Table 1 lists the covered process units that are subject to the federal Risk Management Program, defines the appropriate RMP program level, and identifies the regulated substances handled in these units.

Table 1
Summary of Covered Process Units - BWC Areas 1 and 2

Crude Vacuum Unit
(Units 10, 11, and 12)
Physically separates crude oil into intermediate and final products by boiling the crude oil and condensing the vapors (i.e., distillation).
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Ethane, Propane, Isobutane, Butane, Isopentane, Pentane

Hydrogen Generation Unit (Unit 20) Manufactures high purity hydrogen for consumption in the hydrotreaters, the hydrocracker, and the mild hydrocracker.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Methane

Hydrocracking Unit (Unit 21)
High temperature and catalyst are used to break or crack large hydrocarbon molecules such as diesel from the Crude Vacuum Unit, and gas oil and naphtha from the Delayed Coking Unit in Area 3.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Hydrogen, Methane, Ethane, Propane, Butane, Pentane

Catalytic Reforming Unit (Unit 22)
Provides a high octane blending component necessary to produce gasoline.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Ethane, Propane, Isobutane, Butane

De-Isobutanizer Unit (Unit 24)
Separates and purifies liquefied petroleum gas (LPG) streams from the CVU, the reformers, and the hydrocracker. (Also known as Saturated Gas Plant.)
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Ethane, Propane, Isobutane, Butane, Isopentane, Pentane

Amine Treating Unit (Unit 25)
Consists of a closed circulation system in which an amine solution removes hydrogen sulfide (H2S) from sour liquid and gas streams.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Methane, Ethane, Propane, Butane, Isopentane, Pentane

Hydrotreating (Unit 26)

Removes nitrogen and sulfur contaminants from feed naphtha.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Hydrogen, Methane, Ethane, Propane, Isobutane, Butane, Isopentane, Pentane

CD Hydro Unit (Unit 27)
Converts a portion of benzene in gasoline to cyclohexane to achieve maximum benzene concentration specifications.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Propane, Isobutane, Butane, Isopentane, Pentane

Area 1 Tank Farm (Unit 70)
Storage, interplant transfer, blending, dewatering, chemical treatment, pipeline receiving and shipping, rail receiving and shipping, and truck loading / unloading of crude oils, intermediate products, additives, chemicals, and finished products.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: None
Regulated Flammable Substances: Methane, Ethane, Butane, Isopentane, Pentane

Area 2 Tank Farm (Unit 71)
Storage, interplant transfer, blending, dewatering, chemical treatment, pipeline receiving and shipping, rail receiving and shipping, and truck loading / unloading of crude oils, intermediate products, additives, chemicals, and finished products.
Federal RMP Program Level: Level 3
Regulated Toxic Substances: Ammonia (Anhydrous)
Regulated Flammable Substances: Methane, Ethane, Propane, Propylene, Isobutane, Butane, Isopentane, Pentane,

Section 3: Worst Case Release Scenarios and Alternative Release Scenarios

Offsite consequence analyses are essential in identifying potential hazards of accidental releases. The results of the analyses are used to assist the Kern County Environmental Health Services Department and Fire Department in its emergency response planning.

3.1 Worst-Case Scenarios

Shell Bakersfield Refinery (SBR) conducted offsite consequence analyses for the worst-case scenarios (WCS) using the Environmental Protection Agency's (EPA) RMP Offsite Consequence Analysis Guidelines (OCAG). This methodology was used because the RMP rule set forth specific criteria that must be followed for modeling the worst-case scenarios. The worst case scenarios must incorporate very conservative, simplified assumptions about the nature of the releases and the resulting emission rates into the air.

The EPA has defined the worst-case release scenario as one that results in the greatest distance from the point of release to a specified "endpoint". As defined by the rule, the endpoint for toxics substances is a specified concentration, and for flammables is a specified overpressure from a vapor cloud explosion (VCE).

The worst-case scenario for a regulated toxic is one where the total quantity in the largest vessel or pipe is released over 10 minutes, resulting in acute health effects associated with airborne exposure. For a regulated flammable, the worst-case scenario is one where the total quantity of regulated flammable in the largest vessel or pipe is assumed to vaporize and instantaneously result in a vapor cloud explosion.

A summary of the worst-case scenarios for BWC Areas 1 and 2 is provided in Table 2. As required by the RMP rule, the results are shown for one vessel containing a toxic substance (ammonia) and one vessel containing flammables. These scenarios produced the greatest distance to their respective toxic and flammable endpoints.

Table 2
Worst-Case Scenario Results - BWC Areas 1 and 2

Regulated Substance: Ammonia, Anhydrous (toxic gas)
Area/Unit: Area 2 Tank Farm
Administrative Controls Considered: Quantity stored limited to 80% of capacity by written operating procedures
Passive Mitigation Considered: None
Offsite Impacts: Yes

Regulated Substance: Flammable Liquid
Area/Unit: Area 2 Tank Farm
Administrative Controls Considered: Quantity stored limited to 87% of capacity by written operating procedures
Passive Mitigation Considered: None
Offsite Impacts: Yes

3.2 Alternative Release Scenarios

In addition to worst case scenarios, this RMP contains a second set of release scenarios designated as alternative release scenarios (ARS). These scenarios are more realistic than worst-case scenarios for assessing the potential hazards posed by process units and developing emergency response plans. Although these scenarios may be unlikely to occur, they are physically possible and reasonably feasible.

EPA OCAG procedures were not used for modeling the alternative release scenarios. More flexibility is provided for in characterizing releases and assessing the impacts for the alternative release scenarios. SBR used the "PHAST Professional" model by DNV Technica for the ARS. PHASTProfessional is an advanced consequence modeling program that examines the progress of a potential incident from initial release, through the formation of a cloud and/or liquid pool, and on to final dispersion and flammable/toxic effects.

A summary of the alternative release scenarios for BWC Areas 1 and 2 is provided in Table 3. There is one scenario for each toxic substance and one for flammables. The ammonia release and the flammable release were assumed to be stopped after 60 minutes, though a longer duration would not change the results presented.

Table 3
Alternative Release Scenario Results - BWC Areas 1 and 2

Regulated Substance: Ammonia, Anhydrous (toxic gas)
Area/Unit: Area 2 Tank Farm
Administrative Controls Considered: Quantity stored limited to 80% of capacity by written operating procedures
Active/Passive Mitigation Considered: A dike around the tank limits the exposed surface area of the pool, reducing the release rate
Offsite Impacts: Yes

Regulated Substance: Flammable Liquid
Area/Unit: Area 2 Tank Farm
Administrative Controls Considered: Quantity stored limited to 87% of capacity by written operating procedures
Active/Passive Mitigation Considered: None
Offsite Impacts: No

Section 4. BWC Accidental Release Prevention Program

This section describes the general accident prevention programs in place at BWC. This program is required for all level 3 covered process units described in Section 2, Table 1, and is applied throughout the facility.

Employees are responsible for implementing the prevention elements for his/her department as follows:

Safety Group
Process Safety Information

Process Hazards Analyses
Compliance Audits
Employee Participation
Contractor Orientation
Incident Investigation
Hot Work Procedure
Contractors
Emergency Response

Training Department
Operating Procedures
Employee Training

Operations Department
Management of Change
Pre-Startup Safety Reviews
Incident Investigation

Production Services Department
Mechanical Integrity

Project Engineering
Process Safety Information

Asset Manager
Incident Investigation

All records associated with the prevention elements and the Risk Management Program are retained for a minimum of five years.

4.1 Process Safety Information

BWC maintains a variety of technical documents that are used to help ensure safe operations of the process units. Process Safety Information (PSI), which addresses chemical properties and associated hazards, limits for key process parameters, limits for specific chemical inventories, and equipment design information, was compiled for each process unit.

PSI is used in process unit hazard analyses, inspection, maintenance, and training activities. This information is kept current by management of change and pre-startup safety review procedures, which are discussed further in this section.

This information, in combination with written procedures and trained personnel, provides a basis for establishing inspection and maintenance activities, as well as for evaluating proposed process and facility changes to ensure that safety features in the process are not compromised.

4.2 Process Hazards Analysis

BWC conducts process hazards analyses (PHAs) to ensure that hazards associated with process units are identified and controlled. Under this program, each process is systematically examined by a multi-disciplinary team to identify hazards that could result in an accidental release of a regulated substance and to ensure that adequate control is in place to manage those hazards. SBR has used the hazard and operability study methodology as the refinery's primary process hazards analysis technique. Some of the revalidation has been done using the "what if" and risk matrix methodologies. Pertinent parameters, such as flow, temperature, pressure, and liquid level, were reviewed.

To help ensure that the process controls or process hazards do not deviate significantly from the original design safety features, SBR updates and revalidates the hazard analyses every five years.

As part of the technical studies, BWC conducted a seismic review of the refinery. The refinery is located in an area that is prone to earthquakes. A walk through was conducted in 1996 by a qualified engineering company. The objective of seismic assessments was to provide reasonable assurance that a release of regulated substance having off-site consequence would not occur as a result of a major earthquake. The results and findings from the seismic review are documented and retained in the computerized tracking system.

4.3 Operating Procedures

BWC has developed and implemented written operating procedures that provide clear instructions for safely conducting activities involved in each process. The written operating procedures address the various modes of process operations, such as unit startup, normal operations, temporary operations, emergency shutdown, normal shutdown, and initial startup of a new process.

These procedures are used as references by experienced operators and for consistent training of new operators. The procedures are maintained current and accurate by revising them to reflect changes made through the management of change process and through annual certification.

4.4 Training

BWC's general policy requires operating personnel to be trained in the safe operation of facilities, handling process upsets, emergency response, and personal safety. Employees who understand the process and how to safely operate a process can significantly decrease the number and severity of incidents.

Refresher training for all operations and maintenance employees in Safety, Health, and Environmental subjects and operating procedures (as appropriate) is provided at varying intervals, depending upon requirements.

4.5 Management of Change

A Management of Change (MOC) review is required for modifications to facilities or changes to process unit operating conditions. The procedure does not apply to "replacement in kind" which is defined as replacements that satisfy the design specifications.

The MOC process is intended to assess the impact of proposed changes on process safety, the environment, operability, reliability, and product quality in process units. The requirements for Management of Change are documented in a written procedure. Management of Change information is kept for the life of the process unit.

4.6 Pre-Startup Safety Reviews

The purpose of the Pre-Startup Safety Review is to ensure safety features, procedures, personnel, and the equipment are appropriately prepared for startup prior to placing the equipment into service. This review provides additional assurance that construction is in accordance with the design specifications and that all systems are operationally ready. The Pre-Startup Safety Review also verifies that accident prevention program requirements are properly implemented.

Pre-startup reviews are goverened by a written Pre-Startup Safety review procedure and covers a variety or issues, including:

* construction and/or equipment are in accordance with design specifications;
* safety, operating, maintenance, and emergency procedures are in place and are adequate;
* for new facilities, a process hazard analysis has been performed and recommendations have been resolved or implemented before start-up;
* modified facilities have complied with MOC requirements including updating of the process safety information (e.g., piping instrument diagrams, operating procedures, etc.);
* training of each applicable operating employee and maintenance worker has been completed.

4.7 Mechanical Integrity

BWC has established and implemented written procedures to maintain the ongoing integrity of process equipment, pressure

vessels and storage tanks, relief and vent systems and devices, emergency shutdown systems, and controls.

The BWC mechanical integrity program follows recognized and generally accepted good engineering practices. BWC maintains a certification record that each inspection and test has been performed, which includes the date of the inspection, the name of the inspector and test, and the serial number or other identifier of the equipment. Every recommendation made by an inspector is resolved and documented. In so doing, BWC will correct deficiencies in equipment which are outside acceptable limits (as defined by the process safety information) before further use, or in a safe and timely manner that ensures safe operation.

4.8 Compliance Audits

To ensure that the accident prevention program is functioning properly, BWC conducts audits every three years to assure that the accident prevention program is being implemented. The audits include an assessment of written prevention program elements, retained records (e.g., training records, completed hot work permits, etc.), and personnel interviews to assess level of implementation for the prevention program.

Compliance reviews are performed by trained, expert personnel. Audit results are communicated to affected employees and contractors, and retained for five years. Action items or recommendation resulting from the various audits are tracked to completion through a computerized database.

4.9 Incident Investigation

The BWC accident investigation program covers four types of incidents:

* personal injury;
* environmental release;
* equipment damage and loss of production caused by fire, equipment failure or other circumstance; and
* those incidents that could have reasonably resulted in a catastrophic event.

The goal of an investigation is to determine the facts associated with a release or near miss and to develop corrective actions to prevent a recurrence of the incident or a similar incident. The investigation team is directed by a team leader who has had training in incident investigation and root cause analysis.

The results of the investigation are communicated to all employees. BWC maintains copies of incident investigation reports for a minimum of five years. Corrective measures and action items resulting from an investigation are tracked to completion in a computerized database.

4.10 Employee Participation

All BWC employees have the right to participate in the development and conduct of process safety management activities as stated in the Risk Management and Process Safety Management rules. It is the policy and practice of BWC to encourage employee participation in all aspects of accidental release prevention elements.

All process safety records are available for review by employees and the Joint Health and Safety Committees.

4.11 Safe Work Practices

BWC Safe Work Practices include Hot Work, Confined Space Entry, Lock Out/Tagout, Line Entry, and various other types of work covered under a Departmental Safety Permit.

The BWC Hot Work permit certifies that the various portions of fire prevention and protection requirements have been implemented prior to beginning hot work operations. This procedure documents the date(s) authorized for hot work, identifies the equipment on which hot work is to be done, and assures that all personnel involved in permitting are trained on this procedure.

4.12 Contractors

Contractors at BWC are selected based on their past safety performance, their current safety programs, and their conformance to the BWC Refinery Safety Rules and Regulations Manual.

The BWC Refinery Safety Rules and Regulations Manual provides contractor employees safety information, including entrance and exit procedures, safe work practices and work permitting procedures, emergency action plans, process safety information, and contractor injury/illness reporting.

BWC also requires annual contractor orientation training, which includes information on the emergency action plan, potential process hazards, and site safety rules. Proof of training is provided via renewable access cards.

Section 5. Five-Year Accidental Release Summary

BWC compiled a five-year accident history for accidental releases from covered processes in Areas 1 and 2 that resulted in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage or environmental damage. The compilation of this information satisfies the requirements of the federal Risk Management Program and U.S. Environmental Protection Agency implementing regulations (40 Code of Federal Regulations, Part 68).

The five-year accident history provides an explanation of the factors that caused the accident, the on- and off-site impacts of the accident, and the changes made by SBR to minimize the likelihood that these accidents will occur again.

BWC reviewed all incident, emergency release, and equipment breakdown reports from June 1998 through May 2002 to identify accidental releases of regulated substances from covered processes that involved the impacts described above. One incident involving a regulated substance from a covered process was identified: a gas release involving a regulated toxic substance that resulted in an injury to an employee. SBR substituted the regulated toxic substance with a more inherently safe substance throughout the refinery as a result of the incident.

Section 6. Emergency Response Program

BWC has established a comprehensive Emergency Response Program. The purpose of the program is to protect workers, the public, and the environment from harm due to refinery emergencies. The program includes procedures to provide for comprehensive emergency response through the following:

* First aid and medical treatment
* Emergency incidents, including fire, potential fire, hazardous materials releases, and natural disasters such as floods, winds, earthquake and electrical storms
* Emergency evacuation and rescue
* Notification of local, state and federal emergency response agencies and the public if an incident occurs
* Post-incident clean-up and decontamination

The Emergency Response Program provides for training of all refinery staff, which varies in level of detail based on assigned roles and responsibilities for staff under the Program. Routine audits are routinely performed by BWC staff, and third parties (the Kern County Fire Department and BWC's insurance company) to assure compliance with portions or all of the Emergency Response Program.